DOCUMENT RESUME

ED 114 413 TM 004 904

AUTHOR O'Neill, Josephina; And Others
TITLE The Effect of Visual Format Upon the Test Performance of Spanish-Speaking Students.
PUB DATE [Sep 75]
NOTE 11p.; Paper presented at the Annual Meeting of the American Psychological Association (Chicago, Illinois, September 1975)

EDRS PRICE MF-$0.76 HC-$1.58 Plus Postage
DESCRIPTORS Bilingual Students; Comparative Analysis; *Elementary School Students; Listening Comprehension; Lower Class Students; Multiple Choice Tests; *Organization; Primary Education; *Response Mode; *Spanish Speaking; *Testing; Testing Problems; Test Results; Visual Measures; Vocabulary
IDENTIFIERS *Interamerican Tests of General Ability; TOGA Level I OV

ABSTRACT

The Inter-American Test of General Abilities (TOGA) for bilingual children has parallel Spanish and English forms which have been used to determine language proficiency and dominance. Generally, there has been little emphasis on measuring such physical test features as size, spacing, color, and typeface. The purpose of this study was to determine whether the Oral Vocabulary subtest of TOGA, Level I, significantly affects the test performance of Spanish-speaking youngsters. Results indicate that spacing is a significant factor in the test performance of Spanish-speaking youngsters on this test. It is emphasized that lack of research concerning format factors, particularly at the elementary school level, requires prompt action. (BJG)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED114413

The Effect of Visual Format Upon the Test Performance of Spanish-Speaking Students

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Josephina O'Neill
Educational Therapy Center
Condado, Puerto Rico

Angie Soler
Hartford Public Schools

Marlene Wenograd
University of Hartford

Perry Zirkel
University of Hartford

Paper Presented at the Annual Conference of the American Psychological Association, Chicago, Illinois, September 1975.

TM004 904

A review of the research reveals significant linguistic and cultural barriers in the testing of Spanish-speaking students, especially for verbal tests in the early grades (Zirkel, 1972). As a result, testing instruments are becoming increasingly available in Spanish as well as English (Erlich, 1973; Rosen and Horne, 1971). Moreover, content instruction in Spanish is becoming increasingly available through the recent resurgence of bilingual programs, especially in the early grades (Kanoon, 1974).

Despite less than favorable reviews (Greene, 1972; Havassy, 1971; Schutz, 1972), the Inter-American Test of General Abilities* continues to be one of the most widely used test instruments in bilingual programs around the country (Havassy, 1971; National Consortia, 1971). At least part of its popularity is undoubtedly due to its availability in parallel Spanish and English forms. As a result, its Oral Vocabulary** subtest has been suggested as a measure of dominance between the two languages as well as of proficiency within each language (Greene and Zirkel, 1974).

---

*Hereinafter referred to as TOGA.

**Hereinafter referred to as O.V.

There has been at least passing attention to the physical features of TOGA in its reviews. Durost (1953) provided general criticism of the art work of the earlier edition. Havassy (1971) provided more specific criticism of the test's format, citing among other things the spatial organization of the response options. The quantitative critique by the Center for the Study of Evaluation at UCLA reported a rating of zero on a scale of 0-2 with respect to visual principals of the O.V. subtest format (Hoepfner, 1970).

Yet, there has been a total lack of attention given to empirically assessing the effect of the physical features of such instruments upon the test performance of Spanish-speaking youngsters. Nor is this lack limited to the Spanish-speaking area. Rodgers (1966) emphasized that relatively little is known about the possible effect of physical format on the test performance of elementary school pupils in general.

Such possibly significant physical features include illustration size, spacing, color and typeface. Mueller (1972) for example, found that illustration size had a significant effect upon the Peabody Picture Vocabulary Test performance of children with serious visual impairments. Marks (1966) explored the relative effectiveness of 22 different formats of test directions for junior high school students.

The spatial arrangements of items, as Rodgers (1966) pointed out, is particularly in need of study. Preston's

(1949, p. 33) comments regarding another test instrument are coincidentally relevant to the O.V. subtest of the level I TOGA: "The word mastery subtest in the primary form might better have provided for the spreading of each item along one horizontal line...instead of...arranging the items in two columns." Whether such a revision makes a significant difference has not been empirically investigated.

The purpose of the present study is to determine if a revision in the spatial organization of the response format of the O.V. subtest of TOGA, Level I, significantly affects the test performance of Spanish-speaking youngsters.

METHOD

Subjects

The subjects of the study consisted of 88 six- and seven-year-old Puerto Rican pupils randomly selected from bilingual classes in three public schools in a large Connecticut city. There were 45 females and 43 males in the sample. They were all of low SES, falling into the bottom two categories of Warner's seven point scale.

Instrument

The O.V. subtest of TOGA, Level I, consists of 25 multiple-choice pictorial items designed to assess listening comprehension ability. The test administrator orally presents each

verbal stimulus. The students are then asked to mark the best choice of four pictorial response options. A fifth drawing enclosed in a box is included at the beginning of each of the first 20 items as a marker. The items are arranged 10 to a page in two columns, running down the shorter axis of standard 8½" x 11" paper.

In order to assess the effect of this spatial organization, a revised form of the O.V. was prepared which contained the same items but five to a page in one column running along the 11" axis of the same-sized paper. Thus, the revised form incorporated two changes in format: 1) one column per page rather than two, and 2) more space -- approximately 55 percent more available horizontal space for each item's row of drawings and approximately 30 percent more available vertical space between each item's row of drawings.

The Spanish form (HG-1-DEs) was selected for the purpose of the study, given the trend toward aural Spanish-dominance found to prevail among such students in previous studies (Greene and Zirkel, 1974; Zirkel, 1971, 1973).

Procedure

The pupils were randomly assigned to groups of 10-15 each. These groups were alternatively tested with either the original version or the spaced version of the test. The testing was conducted by the same examiner, a bilingual

teacher-intern of Puerto Rican background, and a bilingual aide. All groups were tested during morning hours.

RESULTS

The mean scores for the two forms of the O.V. are reported in Table I along with the resulting t value.

Table I

Means, Standard Deviations and t Test Results for the Original and Revised Forms of the O.V.

	n	x	s	t
original form	44	14.68	3.97	5.10***
spaced form	44	18.25	2.48	

*** p .001

It can be readily seen that the mean score on the revised, or "spaced," form of the O.V. significantly surpassed that of the original form of the O.V. beyond the .001 level.

DISCUSSION

It appears that spacing is a significant factor in the test performance of Spanish-speaking youngsters on the O.V. subtest of TOGA, Level I. The present format of the O.V. seems to present a real and remedial barrier to the optimal performance of such youngsters with respect to demonstrating

their aural comprehension ability in their native language. There certainly is reason to consequently hypothesize and empirically investigate if this intervening factor is even more important in these students' performance on the parallel English version of the O.V.

These findings also suggest other immediate areas for further investigation with respect to the widely used TOGA series. Within the area of spatial organization, it would be of economic as well as educational interest to determine to what extent each of the factors in the present study -- vertical spacing, horizontal spacing, and the column arrangement -- played a role.* Within the broader area of visual format, the relative importance and optimal mix of other factors casually criticized in the O.V. -- e.g., illustration size and quality (Havassy, 1971) -- also should be empirically examined. One might similarly question whether the use of a fifth drawing as a marker in the first 20 items helps or hinders performance. Such questions may also be constructively asked and empirically answered with respect to the numerical and nonverbal subtests of the Level I TOGA. In constructing and using such series as TOGA, care should be taken not to create a format barrier while attempting to eliminate the language

*It should be pointed out that the publisher of the Inter-American series has introduced a Comprehension of Oral Language test series which incorporates a single column arrangement on smaller paper.

barrier.

Nor are such questions intended to be limited to Spanish-speaking students and the TOGA series. Considering the vast amounts expended and the important decisions based continually upon such instruments, the lack of reasearch concerning format factors, especially at the elementary school level, requires prompt action.

REFERENCES

Durost, W. N. Review of the Test of General Ability: Cooperative Inter-American Tests. In O. K. Buros (Ed.), Fourth mental measurements yearbook. Highland Park, N.J.: Gryphon Press, 1953.

Erlich, A. (Comp.), Tests in Spanish and other languages and non-verbal tests for children in bilingual programs: An annotated B.E.A.R.U. bibliography. New York: Hunter College, 1973. ERIC ED 078 713.

Greene, J. F. and Zirkel, P. A. The use of parallel testing of aural ability as an indicator of bilingual dominance. Psychology in the Schools, 1974, 11, 51-55.

Greene, R. F. Review of Tests of General Ability: Inter-American Series. In O. K. Buros (Ed.), Seventh mental measurement yearbook. Highland Park, N.J.: Gryphon, 1972.

Havassy, B. A critical review of the new Inter-American Series. In O. Martinez (Ed.), Report of BABEL Workshop. Berkeley, Calif.: Bay Area Bilingual Education League, 1971.

Hoepfner, R. (Ed.), CSE elementary school test evaluations. Los Angeles, Calif.: UCLA Center for the Study of Evaluation, 1970.

Kanoon, G. D. Misinterpretation of bilingual education leads to unsuccessful programs. Paper presented at the Annual Meeting of American Educational Research Association. Chicago, March 1974.

Marks, M. B. Improve reading through better format. Journal of Education Research, 1960, 60, 147-151.

Mu ller, M. W. Effects of illustration size on the test performance of visually limited children. Exceptional Children, 1962, 29, 124-128.

National Consortia for Bilingual Education. Tests in use in Title VII bilingual education programs. Fort Worth, Texas: National Consortia for Bilingual Education, 1971.

Preston, R. C. Review of the Stanford Achievement Test. In O. K. Buros (ed.), Third mental measurement yearbook. New Brunswick, N.J.: Rutgers University Press, 1949.

Rodgers, F. A. Test-item format preferences of elementary school pupils. Elementary School Journal, 1966, 67, 45-49.

Rosen, P. and Horne, E. V. (Comp.), Test for Spanish-speaking: An annotated bibliography. Head Start Test Collection (Educational Testing Service), 1971.

Schutz, R. E. Review of Tests of General Ability: Inter-American Series. In O. K. Buros (Ed.), Seventh mental measurements yearbook. Highland Park, N.J.: Gryphon Press, 1972.

Zirkel, P. A. The academic achievement of Spanish-speaking first graders. Hardford, Conn.: Connecticut State Department of Education, 1971. Mimeo.

_____ A survey of Puerto Rican parents. Journal of Integrated Education, 1973, 11, 20-26.

_____ Spanish-speaking students and standardized tests. Urban Review, 1972, 516, 32-40. Reprinted in Education yearbook 1973-74, New York: MacMillan, 1973.

A Study of the Format Factor of a Test Instrument for Spanish-Speaking Students

Irma O'Neill Angie Soler Marlene Wenograd Perry Zirkel

A review of the research reveals significant linguistic and cultural barriers in the testing of Spanish-speaking students, especially for verbal tests in the early grades (Zirkel, 1972). As a result, testing instruments are becoming increasingly available in Spanish as well as English (Erlich, 1973; Rosen and Horne, 1971). Moreover, content instruction in Spanish is becoming increasingly available through the recent resurgence of bilingual programs, especially in the early grades (Kanoon, 1974).

Despite less than favorable reviews (Greene, 197; Havassy, 1971; Schutz, 1972), the Inter-American Test of General Abilities* continues to be one of the most widely used test instruments in bilingual programs around the country (Havassy, 1971; National Consortia, 1971). At least part of its popularity is undoubtedly due to its availability in parallel Spanish and English forms. As a result, its Oral Vocabulary** subtest has been suggested as a measure of dominance between the two languages as well as of proficiency within each language (Greene and Zirkel, 1974).

---

*Hereinafter referred to as TOGA.

**Hereinafter referred to as O.V.